

**FEDERAL AID  
ANNUAL RESEARCH PERFORMANCE REPORT**

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ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 25526  
Juneau, AK 99802-5526

**PROJECT TITLE:** Habitat assessment of potential wood bison relocation sites in Alaska

**PRINCIPAL INVESTIGATOR:** Craig Gardner

**COOPERATORS:** None

**FEDERAL AID GRANT PROGRAM:** Wildlife Restoration

**GRANT AND SEGMENT NR:** W-33-2

**PROJECT NR:** 9.10

**WORK LOCATION** Interior Alaska with special emphasis on known historic wood bison range excluding areas currently supporting plains bison, boroughs, national parks, and large agricultural areas.:

**STATE:** Alaska

**PERIOD:** 1 July 2003–30 June 2004

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**I. PROGRESS ON PROJECT OBJECTIVES SINCE PROJECT INCEPTION**

OBJECTIVE 1: To identify suitable bison habitat areas within the historic wood bison range in Alaska that can sustain  $\geq 400$  wood bison. Measurable criteria will be magnitude of mesic and wet meadow habitats; accessibility of calving, summer, and winter habitats; quantity of preferred forage species; and conflicts between existing wildlife or land use practices and wood bison.

During July 2003, I conducted an aerial reconnaissance through portions of Interior and western Alaska looking for areas with habitat characteristics suitable for wood bison. Based on the amount and type of sedge meadow habitats, I identified portions of the North Fork of the Kuskokwim, Aniak, Innoko, and Hogatza River valleys and Minto Flats as potential wood bison range that warranted further study.

During August 2003 I estimated bison forage species abundance and evaluated meadow moisture characteristics to determine accessibility to summer range in the North Fork of the Kuskokwim River drainage. The amount of suitable habitat and abundance of forage species

Edited Oct-04

Please note: This is a progress report and the information contained within may be further analyzed and refined.

is adequate to support a wood bison herd of  $\geq 400$  animals. Access to many of the larger meadows during summer may be limiting due to wet, boggy conditions. I evaluated accessibility to winter range by conducting a snow pack survey on 23 March 2004. Average snow depth was 40.1 cm (15.8") and would not restrict foraging. Ice layers covering most of the sedge and grass vegetation were common in the larger wet meadows and would have precluded bison foraging. In summary, the North Fork of the Kuskokwim offers suitable vegetation quality and quantity but access to forage may be limiting.

I estimated meadow availability, bison forage abundance (June 2004), and summer and winter forage accessibility in the Minto Flats. During 28–29 June 2004, we sampled 50 randomly selected meadows. Preliminary analysis indicates that Minto Flats offers adequate summer and winter forage. Access to summer range would be restricted in portions of the area due to wet, boggy conditions. The average snow depth from sampling 15 randomly selected sites on 16 March 2004 was 40.4 cm (15.9") and hard pack snow or ice layers were uncommon. These conditions would not have restricted bison foraging.

I will be estimating wood bison forage species abundance in the Innoko and Yukon River drainages from about Shageluk to Paimiut Slough and in the Aniak River valley on 29 and 30 July 2004. Scheduling conflicts precluded completing this work during the current report period. These data will be presented in the 2005 performance and final reports.

## **II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD**

JOB 1: Identify potential wood bison range within Interior Alaska with special emphasis on the subspecies' known historic range.

I conducted a literature review of wood bison food habits, seasonal habitat selection, home range size, and grazing ecology to better define what would be suitable wood bison range in Alaska. I identified possible ranges based on presence or absence of meadow habitats by combining information obtained from the literature, area biologists and local area naturalists with aerial and satellite photography. Most of the wood bison historic range in Alaska is included in Landsat TM imagery (30 m pixel) produced by Ducks Unlimited. This imagery has proven to be adequate to identify and quantify meadow habitats.

I identified 5 areas that appeared to offer suitable wood bison habitat for further study. I evaluated forage abundance in the North Fork of the Kuskokwim River valley (August 2003) and Minto Flats (June 2004) and plan to conduct surveys in the Innoko/Yukon and Aniak River valleys during July 2004. I completed snow surveys in the Minto Flats and North Fork Kuskokwim study areas during March 2004. I will complete snow surveys in the remainder of the areas during March 2005. Once I have completed all the surveys, I will determine which areas could support  $\geq 400$  wood bison.

JOB 2: Investigate potential wildlife and land use conflicts

We developed a map displaying the location of existing plains bison herds and potential wood bison habitat to examine the possibility of conflict. However, I will not investigate land

use plans or consult with local residents in potential areas until I conclude the suitability analysis for all the areas.

### JOB 3: Data Analysis and Reports

This was the first year of the project. This report summarizes results to date.

### **III. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD**

I attended the National Wood Bison Recovery Team meeting in Edmonton, Alberta during June 2004. I participated in discussions concerning wood bison habitat needs with range specialists studying free ranging wood bison herds located throughout western Canada. I was appointed to serve on the Wood Bison Habitat Subcommittee.

### **IV. PUBLICATIONS**

### **V. RECOMMENDATIONS FOR THIS PROJECT**

I recommend a one year extension of this project to end June 30, 2006 because additional potential reintroduction sites were identified during 2004. Current budget and scheduling plans do not allow investigation of those sites during the 2004–2005 reporting period.

### **VI. APPENDIX**

### **VII. PROJECT COSTS FOR THIS SEGMENT PERIOD**

FEDERAL AID SHARE \$27,616 + STATE SHARE \$ 9,205 = TOTAL \$36,821

### **VIII. PREPARED BY:**

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### **SUBMITTED BY:**

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### **APPROVED BY:**

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**APPROVAL DATE:** \_\_\_\_\_